Stanford



Mark Z. Jacobson

Professor of Civil and Environmental Engineering and Senior Fellow at the Woods Institute for the Environment and at the Precourt Institute for Energy

Bio

BIO

Mark Z. Jacobson's career has focused on better understanding air pollution and global warming problems and developing large-scale clean, renewable energy solutions to them. Toward that end, he has developed and applied three-dimensional atmosphere-biosphere-ocean computer models and solvers to simulate air pollution, weather, climate, and renewable energy. He has also developed roadmaps to transition states and countries to 100% clean, renewable energy for all purposes and computer models to examine grid stability in the presence of high penetrations of renewable energy.

ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Senior Fellow, Precourt Institute for Energy
- Senior Fellow, Stanford Woods Institute for the Environment

ADMINISTRATIVE APPOINTMENTS

- Director, Atmosphere/Energy Program, Department of Civil and Environmental Engineering, (2004- present)

HONORS AND AWARDS

- 10 Clean energy leaders to know and follow in 2025, Climate Insider (2025)
- Ranked #1 lifetime highly-ranked scholar worldwide in the field of "Global Warming", Scholar GPS (2024)
- Top 100 people globally who "have made the most significant impact on the world this year", Worth Magazine, "Worthy 100" (2023)
- #1 most impactful scientist in world in Meteorology & Atmos Sci among those 1st publishing past 1985, Ioannidis, JPA, Mendeley Data, V4, doi: 10.17632/btchxktzyw.4 (2022)
- #6 most impactful scientist in world in Energy among those 1st publishing past 1980, Ioannidis, JPA, Mendeley Data, V4, doi: 10.17632/btchxktzyw.4 (2022)
- World Visionary CleanTech Influencer of the Year, CleanTech Business Club (2022)
- World's 100 most influential people in climate policy, Apolitical (2019, 2022)
- #1 academic influencer worldwide on smart grids, Onalytica (2019)
- #2 sustainability influencer worldwide on environmental sustainability, Onalytica (2019)
- All-electric showcase award, Silicon Valley Clean Energy (2019)
- Judi Friedman Lifetime Achievement Award, People's Action for Clean Energy (PACE) (2018)
- Cozzarelli Prize, National Academy of Sciences (2016)
- Grist50, Innovators, organizers, and visionaries who will lead us toward a more sustainable future, Grist (2016)
- Ascent Award, American Geophysical Union (2013)

- Atlas Award Honoring Climate Heroes, Atlas Awards (2013)
- Editors' Citation for Excellence in Refereeing, Journal of Geophysical Research-Atmospheres (2013)
- Global Green Policy Design Award, Global Green (2013)
- Partial share of the 2007 Nobel Peace Prize as a research contributor and reviewer for IPCC, Norwegian Nobel Committee (2007)
- Editors' Citation for Excellence in Refereeing, Journal of Geophysical Research-Atmospheres (2005)
- Henry G. Houghton Award, American Meteorological Society (2005)
- New Investigator Award, NASA (1999-2002)
- Career Early Development Award, National Science Foundation (1995-1998)

PROFESSIONAL EDUCATION

- PhD, University of California, Los Angeles , Atmospheric Sciences (1994)
- MS, University of California, Los Angeles , Atmospheric Sciences (1991)
- MS, Stanford University , Environmental Engineering (1988)
- BS, Stanford University , Civil Engineering (1988)
- BA, Stanford University , Economics (1988)

LINKS

- https://web.stanford.edu/group/efmh/jacobson/: https://web.stanford.edu/group/efmh/jacobson/

Teaching

COURSES

2026-27

- 100% Clean, Renewable Energy and Storage for Everything: CEE 176B, CEE 276B (Spr)
- Atmosphere/Energy Seminar: CEE 263S (Aut, Win, Spr)
- Weather and Storms: CEE 263C, CEE 63 (Aut)

2025-26

- 100% Clean, Renewable Energy and Storage for Everything: CEE 176B, CEE 276B (Spr)
- Air Pollution and Global Warming: History, Science, and Solutions: CEE 263D, CEE 64 (Win)
- Atmosphere/Energy Seminar: CEE 263S (Aut, Win, Spr)
- Weather and Storms: CEE 263C, CEE 63 (Aut)

2024-25

- 100% Clean, Renewable Energy and Storage for Everything: CEE 176B, CEE 276B (Spr)
- Atmosphere/Energy Seminar: CEE 263S (Win, Spr)
- Weather and Storms: CEE 263C, CEE 63 (Win)

2023-24

- 100% Clean, Renewable Energy and Storage for Everything: CEE 176B, CEE 276B (Spr)
- Air Pollution and Global Warming: History, Science, and Solutions: CEE 263D, CEE 64 (Win)
- Atmosphere/Energy Seminar: CEE 263S (Aut, Win, Spr)
- Weather and Storms: CEE 263C, CEE 63 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Advisor (AC)

Fred Fan, Jill Ferguson

Master's Program Advisor

Peter Chea, Summer Cooke, Eva Geierstanger, Arthur Gontier, Charlotte Gressel, Kelsey Hartfelder, Iris Hwang, Noah Korotzer, Nicole Lambert, Corinne Nicholson, Julia Sauve, Elisa Vagaggini

Doctoral (Program)

Fred Fan, Jill Ferguson, Andreas Mühlbauer

Publications

PUBLICATIONS

- **Perspectives on nuclear power** *ENERGY POLICY*
  Weibezahn, J., Steigerwald, B., Aghahosseini, A., von Hirschhausen, C., Jacobson, M. Z., Breyer, C.
  2026; 215
- **The potential for onshore wind repowering to hasten the energy transition in the United States.** *Proceedings of the National Academy of Sciences of the United States of America*
  Mühlbauer, A., Fan, Y. F., Sambor, D. J., Jacobson, M. Z.
  2026; 123 (12): e2521050123
- **The impact of enhanced geothermal systems on transitioning all energy sectors in 150 countries to 100% clean, renewable energy** *CELL REPORTS SUSTAINABILITY*
  Jacobson, M. Z., Sambor, D. J., Fan, Y. F., Muhlbauer, A., Dibari, G. C.
  2026; 3 (2)
- **More Renewable Energy Leads to a Faster Transition at Lower Cost as Revealed by Comparative Analysis of Global Energy Transition Scenarios** *IET RENEWABLE POWER GENERATION*
  Aghahosseini, A., Solomon, A., Bardi, U., Creutzig, F., Hoekstra, A., Jacobson, M. Z., Jager-waldau, A., Lopez, G., Breyer, C.
  2026; 20 (1)
- **Projections of when each of 150 countries May eliminate air pollution and carbon emissions from all energy** *RSC SUSTAINABILITY*
  Jacobson, M. Z.
  2025
- **Locating the missing absorption enhancement due to multi–core black carbon aerosols.** *Nature communications*
  Chen, X., Ching, J., Wu, F., Matsui, H., Jacobson, M. Z., Zhang, F., Wang, Y., Zhang, Z., Liu, D., Zhu, S., Rudich, Y., Shi, Z., Yoo, et al
  2025; 16 (1): 10187
- **High-precision passive heat-transfer modeling for novel microgrid research station: Integrating first principles, data analysis, and optimization** *JOURNAL OF BUILDING ENGINEERING*
  Fan, Y. F., Sambor, D. J., Muhlbauer, A., Boucher, J. A., Kwon, T., Jacobson, M. Z., Decker, C. T., Goebel, J. M.
  2025; 113
- **Minimizing the multi-decadal cost of islanded renewable-electricity microgrids for different climate zones** *SMART ENERGY*
  Muhlbauer, A., Fan, Y. F., Sambor, D. J., Jacobson, M. Z.
  2025; 20
- **Green hydrogen production pathways: Comparative insights from Denmark, the United States, and China** *ENERGY CONVERSION AND MANAGEMENT*
  Andreae, E., Fan, Y. F., Petersen, M., You, S., Bindner, H. W., Jacobson, M. Z.
  2025; 342
- **Using multi-satellite observations to constrain ammonia emissions and unlock their potential over open water.** *Scientific reports*

Momeni, M., Kashfi Yeganeh, A., Zanganeh Kia, H., Ghahremanloo, M., Mousavinezhad, S., De Guzman, H. J., Shephard, M. W., Jacobson, M. Z., Choi, Y.
2025; 15 (1): 26784

- **No blackouts or cost increases due to 100% clean, renewable electricity powering California for parts of 98 days** *Renewable Energy*
  Jacobson, M. Z., Sambor, D. J., Fan, Y. F., Mühlbauer, A., Delucchi, M. A.
  2025; 240: 122262
- **Energy, health, and climate costs of carbon-capture and direct-air-capture versus 100%-wind-water-solar climate policies in 149 countries** *Environmental Science & Technology*
  Jacobson, M. Z., Fu, D., Sambor, D. J., Mühlbauer, A.
  2025
- **Effects of firebricks for industrial process heat on the cost of matching all-sector energy demand with 100% wind-water-solar supply in 149 countries.** *PNAS nexus*
  Jacobson, M. Z., Sambor, D. J., Fan, Y. F., Mühlbauer, A.
  2024; 3 (7): pgae274
- **Batteries or hydrogen or both for grid electricity storage upon full electrification of 145 countries with wind-water-solar?** *iScience*
  Jacobson, M. Z.
  2024; 27 (2): 108988
- **Particulate Filters for Combustion Engines to Mitigate Global Warming. Estimating the Effects of a Highly Efficient but Underutilized Tool** *EMISSION CONTROL SCIENCE AND TECHNOLOGY*
  Mayer, A. C. R., Mayer, J., Wyser, M., Legerer, F., Czerwinski, J., Lutz, T. W., Johnson, T. V., Jacobson, M. Z.
  2024
- **"Impacts of green hydrogen for steel, ammonia, and long-distance transport on the cost of meeting electricity, heat, cold, and hydrogen demand in 145 countries running on 100% wind-water-solar"(vol 11, 100106, 2023)** *SMART ENERGY*
  Jacobson, M. Z., von Krauland, A., Song, K., Krull, A. N.
  2023; 12
- **Should Transportation Be Transitioned to Ethanol with Carbon Capture and Pipelines or Electricity? A Case Study.** *Environmental science & technology*
  Jacobson, M. Z.
  2023
- **United States offshore wind energy atlas: availability, potential, and economic insights based on wind speeds at different altitudes and thresholds and policy-informed exclusions** *ENERGY CONVERSION AND MANAGEMENT-X*
  von Krauland, A., Long, Q., Enevoldsen, P., Jacobson, M. Z.
  2023; 20
- **Impacts of green hydrogen for steel, ammonia, and long-distance transport on the cost of meeting electricity, heat, cold, and hydrogen demand in 145 countries running on 100% wind-water-solar** *SMART ENERGY*
  Jacobson, M. Z., von Krauland, A., Song, K., Krull, A. N.
  2023; 11
- **Energy optimization of a food-energy-water microgrid living laboratory in Yukon, Canada** *ENERGY NEXUS*
  Sambor, D. J., Penn, H., Jacobson, M. Z.
  2023; 10
- **No miracle required** *NEW SCIENTIST*
  Jacobson, M.
  2023; 246 (3426): 27
- **Reply to the 'Comment on "Low-cost solutions to global warming, air pollution, and energy security for 145 countries"'** *ENERGY & ENVIRONMENTAL SCIENCE*
  Jacobson, M. Z., von Krauland, A., Coughlin, S. J., Dukas, E., Nelson, A. J. H., Palmer, F. C., Rasmussen, K. R.
  2023
- **Toward battery electric and hydrogen fuel cell military vehicles for land, air, and sea** *ENERGY*

Katalenich, S. M., Jacobson, M. Z.
2022; 254

- **Low-cost solutions to global warming, air pollution, and energy insecurity for 145 countries** *ENERGY & ENVIRONMENTAL SCIENCE*
  Jacobson, M. Z., von Krauland, A., Coughlin, S. J., Dukas, E., Nelson, A. J. H., Palmer, F. C., Rasmussen, K. R.
  2022

- **Reply to comment on "How Green is Blue Hydrogen?"** *ENERGY SCIENCE & ENGINEERING*
  Howarth, R. W., Jacobson, M. Z.
  2022

- **Optimizing demand response of a modular water reuse system in a remote Arctic microgrid** *JOURNAL OF CLEANER PRODUCTION*
  Sambor, D. J., Bishop, S. C. M., Dotson, A., Aggarwal, S., Jacobson, M. Z.
  2022; 346

- **Zero air pollution and zero carbon from all energy at low cost and without blackouts in variable weather throughout the US with 100% wind-water-solar and storage** *RENEWABLE ENERGY*
  Jacobson, M. Z., von Krauland, A., Coughlin, S. J., Palmer, F. C., Smith, M. M.
  2022; 184: 430-442

- **On the History and Future of 100% Renewable Energy Systems Research** *IEEE ACCESS*
  Breyer, C., Khalili, S., Bogdanov, D., Ram, M., Oyewo, A., Aghahosseini, A., Gulagi, A., Solomon, A. A., Keiner, D., Lopez, G., Ostergaard, P., Lund, H., Mathiesen, et al
  2022; 10: 78176-78218

- **The cost of grid stability with 100 % clean, renewable energy for all purposes when countries are isolated versus interconnected** *RENEWABLE ENERGY*
  Jacobson, M. Z.
  2021; 179: 1065-1075

- **Renewable energy and energy storage to offset diesel generators at expeditionary contingency bases** *JOURNAL OF DEFENSE MODELING AND SIMULATION-APPLICATIONS METHODOLOGY TECHNOLOGY-JDMS*
  Katalenich, S. M., Jacobson, M. Z.
  2021

- **How green is blue hydrogen?** *ENERGY SCIENCE & ENGINEERING*
  Howarth, R. W., Jacobson, M. Z.
  2021

- **On the socio-technical potential for onshore wind in Europe: A response to critics** *ENERGY POLICY*
  Enevoldsen, P., Permien, F., Bakhtaoui, I., Von Krauland, A., Jacobson, M. Z., Xydis, G., Sovacool, B. K., Valentine, S. V., Luecht, D., Oxley, G.
  2021; 151

- **Data investigation of installed and output power densities of onshore and offshore wind turbines worldwide** *ENERGY FOR SUSTAINABLE DEVELOPMENT*
  Enevoldsen, P., Jacobson, M. Z.
  2021; 60

- **On the correlation between building heat demand and wind energy supply and how it helps to avoid blackouts** *SMART ENERGY*
  Jacobson, M. Z.
  2021; 1: 100009

- **Development of a Tool for Optimizing Solar and Battery Storage for Container Farming in a Remote Arctic Microgrid** *ENERGIES*
  Sambor, D. J., Wilber, M., Whitney, E., Jacobson, M. Z.
  2020; 13 (19)

- **Transitioning All Energy in 74 Metropolitan Areas, Including 30 Megacities, to 100% Clean and Renewable Wind, Water, and Sunlight (WWS)** *ENERGIES*
  Jacobson, M. Z., von Krauland, A., Burton, Z. F. M., Coughlin, S. J., Jaeggli, C., Nelli, D., Nelson, A. J. H., Shu, Y., Smith, M., Tan, C., Wood, C. D., Wood, K. D.
  2020; 13 (18)

- **Optimizing the layout of onshore wind farms to minimize noise** *APPLIED ENERGY*
  Wu, X., Hu, W., Huang, Q., Chen, C., Jacobson, M. Z., Chen, Z.
  2020; 267

- **How much wind power potential does Europe have? Examining European wind power potential with an enhanced socio-technical atlas (vol 132, pg 1092, 2019)** *ENERGY POLICY*
  Enevoldsen, P., Permien, F., Bakhtaoui, I., von Krauland, A., Jacobson, M. Z., Xydis, G., Sovacool, B. K., Valentine, S. V., Luecht, D., Oxley, G.
  2020; 138

- **Optimal operational strategy for an offgrid hybrid hydrogen/electricity refueling station powered by solar photovoltaics** *JOURNAL OF POWER SOURCES*
  Xu, X., Hu, W., Cao, D., Huang, Q., Liu, W., Jacobson, M. Z., Chen, Z.
  2020; 451: 227810

- **Co-optimized trading of hybrid wind power plant with retired EV batteries in energy and reserve markets under uncertainties** *ELECTRICAL POWER AND ENERGY SYSTEMS*
  Zhan, S., Hou, P., Enevoldsen, P., Yang, G., Zhu, J., Eichman, J., Jacobson, M. Z.
  2020; 117: 105631

- **The health and climate impacts of carbon capture and direct air capture** *ENERGY & ENVIRONMENTAL SCIENCE*
  Jacobson, M. Z.
  2019; 12 (12): 3567–74

- **How much wind power potential does europe have? Examining european wind power potential with an enhanced socio-technical atlas** *ENERGY POLICY*
  Enevoldsen, P., Permien, F., Bakhtaoui, I., von Krauland, A., Jacobson, M. Z., Xydis, G., Sovacool, B. K., Valentine, S. V., Luecht, D., Oxley, G.
  2019; 132: 1092–1100

- **Short-Term Impacts of the Aliso Canyon Natural Gas Blowout on Weather, Climate, Air Quality, and Health in California and Los Angeles** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Jacobson, M. Z.
  2019; 53 (10): 6081–93

- **Short-Term Impacts of the Megaurbanizations of New Delhi and Los Angeles Between 2000 and 2009** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z., Nghiem, S. V., Sorichetta, A.
  2019; 124 (1): 35–56

- **Impacts of Green New Deal energy plans on grid stability, costs, jobs, health, and climate in 143 countries** *ONE EARTH*
  Jacobson, M. Z., Delucchi, M. A., Cameron, M. A., Coughlin, S. J., Hay, C., Manogaran, I. P., Shu, Y., von Krauland, A.
  2019; 1: 449-463

- **Carbon emissions and costs associated with subsidizing New York nuclear instead of replacing it with renewables** *JOURNAL OF CLEANER PRODUCTION*
  Cebulla, F., Jacobson, M. Z.
  2018; 205: 884–94

- **100% clean and renewable Wind, Water, and Sunlight (WWS) all-sector energy roadmaps for 53 towns and cities in North America** *SUSTAINABLE CITIES AND SOCIETY*
  Jacobson, M. Z., Cameron, M. A., Hennessy, E. M., Petkov, I., Meyer, C. B., Gambhira, T. K., Maki, A. T., Pfleeger, K., Clonts, H., McEvoy, A. L., Miccioli, M. L., von Krauland, A., Fang, et al
  2018; 42: 22–37

- **Matching demand with supply at low cost in 139 countries among 20 world regions with 100% intermittent wind, water, and sunlight (WWS) for all purposes** *RENEWABLE ENERGY*
  Jacobson, M. Z., Delucchi, M. A., Cameron, M. A., Mathiesen, B. V.
  2018; 123: 236–48

- **World estimates of PV optimal tilt angles and ratios of sunlight incident upon tilted and tracked PV panels relative to horizontal panels** *SOLAR ENERGY*
  Jacobson, M. Z., Jadhav, V.

2018; 169: 55–66

- **Roadmaps to Transition Countries to 100% Clean, Renewable Energy for All Purposes to Curtail Global Warming, Air Pollution, and Energy Risk** *EARTHS FUTURE*
  Jacobson, M. Z.
  2017; 5 (10): 948–52

- **The United States can keep the grid stable at low cost with 100% clean, renewable energy in all sectors despite inaccurate claims.** *Proceedings of the National Academy of Sciences of the United States of America*
  Jacobson, M. Z., Delucchi, M. A., Cameron, M. A., Frew, B. A.
  2017; 114 (26): E5021-E5023

- **100% Clean and renewable wind, water, and sunlight all-sector energy roadmaps for 139 countries of the world** *JOULE*
  Jacobson, M. Z., Delucchi, M. A., Bauer, Z. A., Goodman, S. C., Chapman, W. E., Cameron, M. A., et al
  2017; 1 (1): 108-121

- **Optimizing investments in coupled offshore wind-electrolytic hydrogen storage systems in Denmark** *J. Power Sources*
  Hou, P., Enevoldsen, P., Eichman, J., Hu, W., Jacobson, M. Z., Chen, Z.
  2017; 359: 186-197

- **An intercomparative study of the effects of aircraft emissions on surface air quality** *JOURNAL OF GEOPHYSICAL RESEARCH: ATMOSPHERES*
  Cameron, M. A., Jacobson, M. Z., Barrett, S. R., Bian, H., Chen, C. C., Eastham, S. D., Gettelman, A., Khodayari, A., Liang, Q., Selkirk, H. B., Unger, N., Wuebbles, D. J., Yue, et al
  2017; 122 (15): 8325-8344

- **Temporal and spatial tradeoffs in power system modeling with assumptions about storage: An application of the POWER model** *ENERGY*
  Frew, B. A., Jacobson, M. Z.
  2016; 117: 198-213

- **Reply to Bistline and Blanford: Letter reaffirms conclusions and highlights flaws in previous research.** *Proceedings of the National Academy of Sciences of the United States of America*
  Jacobson, M. Z., Delucchi, M. A., Cameron, M. A., Frew, B. A.
  2016; 113 (28): E3989-90

- **Flexibility mechanisms and pathways to a highly renewable US electricity future** *ENERGY*
  Frew, B. A., Becker, S., Dvorak, M. J., Andresen, G. B., Jacobson, M. Z.
  2016; 101: 65-78

- **IMPACT OF AVIATION ON CLIMATE FAA's Aviation Climate Change Research Initiative (ACCRI) Phase II** *BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY*
  Brasseur, G. P., Gupta, M., Anderson, B. E., Balasubramanian, S., Barrett, S., Duda, D., Fleming, G., Forster, P. M., Fuglestvedt, J., Gettelman, A., Halthore, R. N., Jacob, S. D., Jacobson, et al
  2016; 97 (4): 561-583

- **A 100% wind, water, sunlight (WWS) all-sector energy plan for Washington State** *RENEWABLE ENERGY*
  Jacobson, M. Z., Delucchi, M. A., Bazouin, G., Dvorak, M. J., Arghandeh, R., Bauer, Z. A., Cotte, A., de Moor, G. M., Goldner, E. G., Heier, C., Holmes, R. T., Hughes, S. A., Jin, et al
  2016; 86: 75-88

- **Low-cost solution to the grid reliability problem with 100% penetration of intermittent wind, water, and solar for all purposes** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Jacobson, M. Z., Delucchi, M. A., Cameron, M. A., Frew, B. A.
  2015; 112 (49): 15060-15065

- **Low-cost solution to the grid reliability problem with 100% penetration of intermittent wind, water, and solar for all purposes.** *Proceedings of the National Academy of Sciences of the United States of America*
  Jacobson, M. Z., Delucchi, M. A., Cameron, M. A., Frew, B. A.
  2015; 112 (49): 15060-5

- **Comparison of low-carbon pathways for California** *CLIMATIC CHANGE*

Morrison, G. M., Yeh, S., Eggert, A. R., Yang, C., Nelson, J. H., Greenblatt, J. B., Isaac, R., Jacobson, M. Z., Johnston, J., Kammen, D. M., Mileva, A., Moore, J., Roland-Holst, et al
2015; 131 (4): 545-557

- **Ring of impact from the mega-urbanization of Beijing between 2000 and 2009** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z., Nghiem, S. V., Sorichetta, A., Whitney, N.
  2015; 120 (12): 5740-5756
- **Ocean Acidification Science Needs for Natural Resource Managers of the North American West Coast** *OCEANOGRAPHY*
  Boehm, A. B., Jacobson, M. Z., O'Donnell, M. J., Sutula, M., Wakefield, W. W., Weisberg, S. B., Whiteman, E.
  2015; 28 (2): 170-181
- **Renewable build-up pathways for the US: Generation costs are not system costs** *ENERGY*
  Becker, S., Frew, B. A., Andresen, G. B., Jacobson, M. Z., Schramm, S., Greiner, M.
  2015; 81: 437-445
- **100% clean and renewable wind, water, and sunlight (WWS) all-sector energy roadmaps for the 50 United States** *ENERGY & ENVIRONMENTAL SCIENCE*
  Jacobson, M. Z., Delucchi, M. A., Bazouin, G., Bauer, Z. A., Heavey, C. C., Fisher, E., Morris, S. B., Piekutowski, D. J., Vencill, T. A., Yeskoo, T. W.
  2015; 8 (7): 2093-2117
- **Variability and uncertainty of wind power in the California electric power system** *WIND ENERGY*
  Stoutenburg, E. D., Jenkins, N., Jacobson, M. Z.
  2014; 17 (9): 1411-1424
- **A roadmap for repowering California for all purposes with wind, water, and sunlight** *ENERGY*
  Jacobson, M. Z., Delucchi, M. A., Ingraffea, A. R., Howarth, R. W., Bazouin, G., Bridgeland, B., Burkart, K., Chang, M., Chowdhury, N., Cook, R., Escher, G., Galka, M., Han, et al
  2014; 73: 875-889
- **Features of a fully renewable US electricity system: Optimized mixes of wind and solar PV and transmission grid extensions** *ENERGY*
  Becker, S., Frew, B. A., Andresen, G. B., Zeyer, T., Schramm, S., Greiner, M., Jacobson, M. Z.
  2014; 72: 443-458
- **Effects of biomass burning on climate, accounting for heat and moisture fluxes, black and brown carbon, and cloud absorption effects** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2014; 119 (14): 8980-9002
- **Taming hurricanes with arrays of offshore wind turbines** *NATURE CLIMATE CHANGE*
  Jacobson, M. Z., Archer, C. L., Kempton, A.
  2014; 4 (3): 195-200
- **Comparison of model estimates of the effects of aviation emissions on atmospheric ozone and methane** *J. Geophys. Res.*
  Olsen, S., C., Brasseur, G., P., Wuebbles, D., J., Barrett, S., R.H., Dang, H., Eastham, S., D., Jacobson, M. Z.
  2014; 40: 6004-6009
- **Effects of plume versus grid-scale treatment of aircraft exhaust photochemistry** *Geophys. Res. Lett.*
  Cameron, M., A., Jacobson, M., Z., Naiman, A., D., Lele, S., K.
  2014; 40: 5815-5820
- **Geographical and seasonal variability of the global "practical" wind resources** *APPLIED GEOGRAPHY*
  Archer, C. L., Jacobson, M. Z.
  2013; 45: 119-130
- **Comparison of model estimates of the effects of aviation emissions on atmospheric ozone and methane** *GEOPHYSICAL RESEARCH LETTERS*
  Olsen, S. C., Brasseur, G. P., Wuebbles, D. J., Barrett, S. R., Dang, H., Eastham, S. D., Jacobson, M. Z., Khodayari, A., Selkirk, H., Sokolov, A., Unger, N.
  2013; 40 (22): 6004-6009

- **Effects of plume-scale versus grid-scale treatment of aircraft exhaust photochemistry** *GEOPHYSICAL RESEARCH LETTERS*
  Cameron, M. A., Jacobson, M. Z., Naiman, A. D., Lele, S. K.
  2013; 40 (21): 5815-5820

- **Response to comment on paper examining the feasibility of changing New York state's energy infrastructure to one derived from wind, water, and sunlight** *ENERGY POLICY*
  Jacobson, M. Z., Howarth, R. W., Delucchi, M. A., Scobie, S. R., Barth, J. M., Dvorak, M. J., Klevze, M., Katkhuda, H., Miranda, B., Chowdhury, N. A., Jones, R., Plano, L., Ingraffea, et al
  2013; 62: 1212-1215

- **US East Coast offshore wind energy resources and their relationship to peak-time electricity demand** *WIND ENERGY*
  Dvorak, M. J., Corcoran, B. A., Ten Hoeve, J. E., McIntyre, N. G., Jacobson, M. Z.
  2013; 16 (7): 977-997

- **Meeting the world's energy needs entirely with wind, water, and solar power** *BULLETIN OF THE ATOMIC SCIENTISTS*
  Delucchi, M. A., Jacobson, M. Z.
  2013; 69 (4): 30-40

- **Bounding the role of black carbon in the climate system: A scientific assessment** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Bond, T. C., Doherty, S. J., Fahey, D. W., Forster, P. M., Berntsen, T., DeAngelo, B. J., Flanner, M. G., Ghan, S., Kaercher, B., Koch, D., Kinne, S., Kondo, Y., Quinn, et al
  2013; 118 (11): 5380-5552

- **Response to Trainer's second commentary on a plan to power the world with wind, water, and solar power** *ENERGY POLICY*
  Jacobson, M. Z., Delucchi, M. A.
  2013; 57: 641-643

- **Examining the feasibility of converting New York State's all-purpose energy infrastructure to one using wind, water, and sunlight** *ENERGY POLICY*
  Jacobson, M. Z., Howarth, R. W., Delucchi, M. A., Scobie, S. R., Barth, J. M., Dvorak, M. J., Klevze, M., Katkhuda, H., Miranda, B., Chowdhury, N. A., Jones, R., Plano, L., Ingraffea, et al
  2013; 57: 585-601

- **Comment on "Radiative Absorption Enhancements Due to the Mixing State of Atmospheric Black Carbon"** *SCIENCE*
  Jacobson, M. Z.
  2013; 339 (6118)

- **Measuring and modeling the hygroscopic growth of two humic substances in mixed aerosol particles of atmospheric relevance** *ATMOSPHERIC CHEMISTRY AND PHYSICS*
  Zamora, I. R., Jacobson, M. Z.
  2013; 13 (17): 8973-8989

- **Interview**
  Jacobson, M., Z.
  2013

- **Roadmaps to power California and the world with wind, water, and the sun**
  Jacobson, M., Z.
  2013

- **A plan to power the world for all purposes with wind, water, and the sun**
  Jacobson, M., Z.
  2013

- **Powering the world, U.S., and individual states for all purposes with wind, water, and sun**
  Jacobson, M., Z.
  2013

- **Powering the world, U.S. and individual states for all purpose with wind**
  Jacobson, M., Z.

2013

- **Powering individual states, the U.S., and the world with wind water, and sunlight**
  Jacobson, M., Z.
  2013
- **Clean energy plans for the U.S. and individual states**
  Jacobson, M., Z.
  2013
- **Bounding the role of black carbon in the climate system: A scientific assessment** *J. Geophys. Res.*
  Bond, T., C., Doherty, S., J., Fahey, D., W., Forster, P., M., Berntsen, T., Boucher, O., Jacobson, M. Z.
  2013
- **Geographical and seasonal variability of the global "practical" wind resources** *Applied Geography*
  Archer, C., L., Jacobson, M., Z.
  2013; 45: 119-130
- **Powering states and the U.S. with wind, water, and sunlight, California Democratic Party Executive Board Meeting**
  Jacobson, M., Z.
  2013
- **Powering New York with wind, water, and sunlight**
  Jacobson, M., Z.
  2013
- **Taming hurricanes with arrays of offshore wind turbines that simultaneously reduce global warming and air pollution and provide normal electric power**
  Jacobson, M., Z.
  2013
- **Acceptance speech**
  Jacobson, M., Z.
  2013
- **Roadmaps for powering California, the U.S., and the world for all purposes with wind, water, and sunlight**
  Jacobson, M., Z.
  2013
- **The effects of aircraft on climate and pollution**
  Jacobson, M., Z.
  2013
- **The effects of aircraft on climate and pollution. Part II: 20-year impacts of exhaust from all commercial aircraft worldwide treated individually at the subgrid scale** *FARADAY DISCUSSIONS*
  Jacobson, M. Z., Wilkerson, J. T., Naiman, A. D., Lele, S. K.
  2013; 165: 369-382
- **Effects of aviation on surface air quality**
  Jacobson, M., Z.
  2013
- **Interview**
  Jacobson, M., Z.
  2013
- **Roadmaps to power California and the world with wind, water, and the sun**
  Jacobson, M., Z.
  2013
- **A plan to power the world for all purposes with wind, water, and the sun**

Jacobson, M., Z.
2013

- **Powering the world, U.S., and individual states for all purposes with wind, water, and sun**
Jacobson, M., Z.
2013

- **Powering the world, U.S. and individual states for all purpose with wind**
Jacobson, M., Z.
2013

- **Powering individual states, the U.S., and the world with wind water, and sunlight**
Jacobson, M., Z.
2013

- **Clean energy plans for the U.S. and individual states**
Jacobson, M., Z.
2013

- **Bounding the role of black carbon in the climate system: A scientific assessment** *J. Geophys. Res.*
Bond, T., C., Doherty, S., J., Fahey, D., W., Forster, P., M., Berntsen, T., Boucher, O., Jacobson, M. Z.
2013

- **Geographical and seasonal variability of the global "practical" wind resources** *Applied Geography*
Archer, C., L., Jacobson, M., Z.
2013; 45: 119-130

- **Powering states and the U.S. with wind, water, and sunlight, California Democratic Party Executive Board Meeting**
Jacobson, M., Z.
2013

- **Powering New York with wind, water, and sunlight**
Jacobson, M., Z.
2013

- **Taming hurricanes with arrays of offshore wind turbines that simultaneously reduce global warming and air pollution and provide normal electric power**
Jacobson, M., Z.
2013

- **Acceptance speech**
Jacobson, M., Z.
2013

- **Roadmaps for powering California, the U.S., and the world for all purposes with wind, water, and sunlight**
Jacobson, M., Z.
2013

- **The effects of aircraft on climate and pollution**
Jacobson, M., Z.
2013

- **The effects of aircraft on climate and pollution. Part II: 20-year impacts of exhaust from all commercial aircraft worldwide treated individually at the subgrid scale** *FARADAY DISCUSSIONS*
Jacobson, M. Z., Wilkerson, J. T., Naiman, A. D., Lele, S. K.
2013; 165: 369-382

- **Coupling of highly explicit gas and aqueous chemistry mechanisms for use in 3-D** *ATMOSPHERIC ENVIRONMENT*
Ginnebaugh, D. L., Jacobson, M. Z.
2012; 62: 408-415

- **Expected Body Weight in Adolescents: Comparison Between Weight-for-Stature and BMI Methods** *PEDIATRICS*
  Golden, N. H., Yang, W., Jacobson, M. S., Robinson, T. N., Shaw, G. M.
  2012; 130 (6): E1607-E1613
- **The effects of rerouting aircraft around the arctic circle on arctic and global climate** *CLIMATIC CHANGE*
  Jacobson, M. Z., Wilkerson, J. T., Balasubramanian, S., Cooper, W. W., Mohleji, N.
  2012; 115 (3-4): 709-724
- **Examining the impacts of ethanol (E85) versus gasoline photochemical production of smog in a fog using near-explicit gas- and aqueous-chemistry mechanisms** *ENVIRONMENTAL RESEARCH LETTERS*
  Ginnebaugh, D. L., Jacobson, M. Z.
  2012; 7 (4)
- **Saturation wind power potential and its implications for wind energy** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Jacobson, M. Z., Archer, C. L.
  2012; 109 (39): 15679-15684
- **Worldwide health effects of the Fukushima Daiichi nuclear accident** *ENERGY & ENVIRONMENTAL SCIENCE*
  Ten Hoeve, J. E., Jacobson, M. Z.
  2012; 5 (9): 8743-8757
- **Reply to the 'Opinion on "Worldwide health effects of the Fukushima Daiichi nuclear accident"' by B. Richter, Energy Environ. Sci., 2012, 5, DOI: 10.1039/c2ee22658h"** *ENERGY & ENVIRONMENTAL SCIENCE*
  Ten Hoeve, J. E., Jacobson, M. Z.
  2012; 5 (9): 8760-8760
- **Effects of aggregating electric load in the United States** *ENERGY POLICY*
  Corcoran, B. A., Jenkins, N., Jacobson, M. Z.
  2012; 46: 399-416
- **Importance of composition and hygroscopicity of BC particles to the effect of BC mitigation on cloud properties: Application to California conditions** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Bahadur, R., Russell, L. M., Jacobson, M. Z., Prather, K., Nenes, A., Adams, P., Seinfeld, J. H.
  2012; 117
- **Response to "A critique of Jacobson and Delucchi's proposals for a world renewable energy supply" by Ted Trainer** *ENERGY POLICY*
  Delucchi, M. A., Jacobson, M. Z.
  2012; 44: 482-484
- **The carbon abatement potential of high penetration intermittent renewables** *ENERGY & ENVIRONMENTAL SCIENCE*
  Hart, E. K., Jacobson, M. Z.
  2012; 5 (5): 6592-6601
- **Comparing results from a physical model with satellite and in situ observations to determine whether biomass burning aerosols over the Amazon brighten or burn off clouds** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Ten Hoeve, J. E., Jacobson, M. Z., Remer, L. A.
  2012; 117
- **Recent shift from forest to savanna burning in the Amazon Basin observed by satellite** *ENVIRONMENTAL RESEARCH LETTERS*
  Ten Hoeve, J. E., Remer, L. A., Correia, A. L., Jacobson, M. Z.
  2012; 7 (2)
- **Investigating cloud absorption effects: Global absorption properties of black carbon, tar balls, and soil dust in clouds and aerosols** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2012; 117
- **Where is the ideal location for a US East Coast offshore grid?** *GEOPHYSICAL RESEARCH LETTERS*
  Dvorak, M. J., Stoutenburg, E. D., Archer, C. L., Kempton, W., Jacobson, M. Z.

2012; 39

- **Effects of Urban Surfaces and White Roofs on Global and Regional Climate** *JOURNAL OF CLIMATE*
  Jacobson, M. Z., Ten Hoeve, J. E.
  2012; 25 (3): 1028-1044
- **The Potential of Intermittent Renewables to Meet Electric Power Demand: Current Methods and Emerging Analytical Techniques** *PROCEEDINGS OF THE IEEE*
  Hart, E. K., Stoutenburg, E. D., Jacobson, M. Z.
  2012; 100 (2): 322-334
- **The case for a fully renewable, all-purpose energy system**
  Jacobson, M., Z.
  2012
- **Effects of urban surfaces and white roofs on global climate** *J. Climate*
  Jacobson, M., Z., Ten Hoeve, J., E.
  2012; 25: 1028-1044
- **Assessing climate impacts of aviation, FAA/PARTNER meeting**
  Jacobson, M., Z.
  2012
- **A plan for powering the world for all purposes with wind, water, and sunlight**
  Jacobson, M., Z.
  2012
- **A plan for a sustainable future using wind, water, and the sun, The Future of Energy: A power Struggle**
  Jacobson, M., Z.
  2012
- **A plan to power the world with wind, water, and sun**
  Jacobson, M., Z.
  2012
- **Air Pollution and Global Warming: History, Science, and Solutions**
  Jacobson, M., Z.
  Cambridge University Press, New York.2012
- **U.S. East Coast offshore wind energy resources and their relationship to peak-time electricity demand** *Wind Energy*
  Dvorak, M., J., Corcoran, B., A., Ten Hoeve, J., E., McIntyre, N., G., Jacobson, M., Z.
  2012
- **Where is the ideal location for a U.S. East Coast offshore grid** *Geophys. Res. Lett.*
  Dvorak, M., J., Stoutenburg, E., D., Archer, C., L., Kempton, W., Jacobson, M., Z.
  2012; 39 (L06804)
- **The effects of rerouting aircraft around the Arctic Circle on Arctic and global climate**
  Jacobson, M., Z.
  2012
- **Pushing the envelope with numerical modeling**
  Jacobson, M., Z.
  2012
- **Powering the world, U.S., and New York with wind, water, and sunlight (with Mark A. Ruffalo and Marco Krapels)**
  Jacobson, M., Z.
  2012
- **Studying the effects of aircraft exhaust on global and regional climate and atmospheric composition**
  Jacobson, M., Z.

2012

- **Examining the impacts of ethanol (E85) versus gasoline production of smog in a fog using near-explicit gas- and aqueous-chemistry mechanisms** *Environmental Research Letters*
  Ginnebaugh, D., L., Jacobson, M., Z.
  2012; 7 (45901)
- **Short-term impacts on climate and air pollution of exhaust from all commercial aircraft worldwide treated at the subgrid scale**
  Jacobson, M., Z.
  2012
- **Saturation wind potential and its implications for wind energy (C.L. Archer, coauthor)**
  Jacobson, M., Z.
  2012
- **A plan for powering the world for all purposes with wind, water, and sunlight**
  Jacobson, M., Z.
  2012
- **A plan for a sustainable future using wind, water, and the sun, The Future of Energy: A power Struggle**
  Jacobson, M., Z.
  2012
- **A plan to power the world with wind, water, and sun**
  Jacobson, M., Z.
  2012
- **Air Pollution and Global Warming: History, Science, and Solutions**
  Jacobson, M., Z.
  Cambridge University Press, New York.2012
- **U.S. East Coast offshore wind energy resources and their relationship to peak-time electricity demand** *Wind Energy*
  Dvorak, M., J., Corcoran, B., A., Ten Hoeve, J., E., McIntyre, N., G., Jacobson, M., Z.
  2012
- **Where is the ideal location for a U.S. East Coast offshore grid** *Geophys. Res. Lett.*
  Dvorak, M., J., Stoutenburg, E., D., Archer, C., L., Kempton, W., Jacobson, M., Z.
  2012; 39 (L06804)
- **The effects of rerouting aircraft around the Arctic Circle on Arctic and global climate**
  Jacobson, M., Z.
  2012
- **Pushing the envelope with numerical modeling**
  Jacobson, M., Z.
  2012
- **Powering the world, U.S., and New York with wind, water, and sunlight (with Mark A. Ruffalo and Marco Krapels)**
  Jacobson, M., Z.
  2012
- **Studying the effects of aircraft exhaust on global and regional climate and atmospheric composition**
  Jacobson, M., Z.
  2012
- **Examining the impacts of ethanol (E85) versus gasoline production of smog in a fog using near-explicit gas- and aqueous-chemistry mechanisms** *Environmental Research Letters*
  Ginnebaugh, D., L., Jacobson, M., Z.
  2012; 7 (45901)
- **Short-term impacts on climate and air pollution of exhaust from all commercial aircraft worldwide treated at the subgrid scale**

Jacobson, M., Z.
2012

- **Saturation wind potential and its implications for wind energy (C.L. Archer, coauthor)**
  Jacobson, M., Z.
  2012

- **Hygroscopic growth of common organic aerosol solutes, including humic substances, as derived from water activity measurements** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Zamora, I. R., Tabazadeh, A., Golden, D. M., Jacobson, M. Z.
  2011; 116

- **CVPS: An operator solving complex chemical and vertical processes simultaneously with sparse-matrix techniques** *ATMOSPHERIC ENVIRONMENT*
  Liang, J., Jacobson, M. Z.
  2011; 45 (37): 6820-6827

- **Large eddy simulations of contrail development: Sensitivity to initial and ambient conditions over first twenty minutes** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Naiman, A. D., Lele, S. K., Jacobson, M. Z.
  2011; 116

- **Reducing Offshore Transmission Requirements by Combining Offshore Wind and Wave Farms** *IEEE JOURNAL OF OCEANIC ENGINEERING*
  Stoutenburg, E. D., Jacobson, M. Z.
  2011; 36 (4): 552-561

- **Measurements of Aerosol Chemistry during New Particle Formation Events at a Remote Rural Mountain Site** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Creamean, J. M., Ault, A. P., Ten Hoeve, J. E., Jacobson, M. Z., Roberts, G. C., Prather, K. A.
  2011; 45 (19): 8208-8216

- **A Monte Carlo approach to generator portfolio planning and carbon emissions assessments of systems with large penetrations of variable renewables** *RENEWABLE ENERGY*
  Hart, E. K., Jacobson, M. Z.
  2011; 36 (8): 2278-2286

- **Vertical mixing of commercial aviation emissions from cruise altitude to the surface** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Whitt, D. B., Jacobson, M. Z., Wilkerson, J. T., Naiman, A. D., Lele, S. K.
  2011; 116

- **The effects of aircraft on climate and pollution. Part I: Numerical methods for treating the subgrid evolution of discrete size- and composition-resolved contrails from all commercial flights worldwide** *JOURNAL OF COMPUTATIONAL PHYSICS*
  Jacobson, M. Z., Wilkerson, J. T., Naiman, A. D., Lele, S. K.
  2011; 230 (12): 5115-5132

- **A mass, energy, vorticity, and potential enstrophy conserving lateral boundary scheme for the shallow water equations using piecewise linear boundary approximations** *JOURNAL OF COMPUTATIONAL PHYSICS*
  Ketefian, G. S., Jacobson, M. Z.
  2011; 230 (8): 2751-2793

- **Providing all global energy with wind, water, and solar power, Part II: Reliability, system and transmission costs, and policies** *ENERGY POLICY*
  Delucchi, M. A., Jacobson, M. Z.
  2011; 39 (3): 1170-1190

- **Providing all global energy with wind, water, and solar power, Part I: Technologies, energy resources, quantities and areas of infrastructure, and materials** *ENERGY POLICY*
  Jacobson, M. Z., Delucchi, M. A.
  2011; 39 (3): 1154-1169

- **Numerical Solution to Drop Coalescence/Breakup with a Volume-Conserving, Positive-Definite, and Unconditionally Stable Scheme** *JOURNAL OF THE ATMOSPHERIC SCIENCES*
  Jacobson, M. Z.
  2011; 68 (2): 334-346
- **Microphysical and radiative effects of aerosols on warm clouds during the Amazon biomass burning season as observed by MODIS: impacts of water vapor and land cover** *ATMOSPHERIC CHEMISTRY AND PHYSICS*
  Ten Hoeve, J. E., Remer, L. A., Jacobson, M. Z.
  2011; 11 (7): 3021-3036
- **Powering the world with wind, water, and sunlight**
  Jacobson, M., Z.
  2011
- **A plan for powering the world for all purposes with wind, water, and sunlight**
  Jacobson, M., Z.
  2011
- **A plan for powering the world with wind, water, and sun**
  Jacobson, M., Z.
  2011
- **Assessing the impact of aviation on climate**
  Jacobson, M., Z.
  2011
- **Water activity limits the hygroscopic growth factor of organic aerosols** *J. Geophys. Res.*
  Zamora, I., R., Tabazadeh, A., Golden, D., M., Jacobson, M., Z.
  2011; 116 (D23207)
- **Atmospheric effects of proposed solutions to climate change and air pollution**
  Jacobson, M., Z.
  2011
- **Powering the world on wind, water, and sun**
  Jacobson, M., Z.
  2011
- **A plan for a sustainable future using wind, water, and the sun**
  Jacobson, M., Z.
  2011
- **A plan for powering the world for all purposes with wind, water, and sunlight**
  Jacobson, M., Z.
  2011
- **A plan for powering the world with wind, water, and sun**
  Jacobson, M., Z.
  2011
- **The enhancement of local air pollution by urban carbon dioxide domes**
  Jacobson, M., Z.
  2011
- **Aerosol particle contribution to global warming and air pollution mortality**
  Jacobson, M., Z.
  2011
- **Coupling cloud and aerosol microphysical processes in a nested climate-weather-air pollution model and its implications for the cloud and climate effects of black carbon**

Jacobson, M., Z.
2011

- **Grid integration challenges for 100% conversion to wind, water, and sun**
  Jacobson, M., Z.
  2011
- **Large eddy simulations of contrail development: Sensitivity to initial and ambient conditions over twenty minutes** *J. Geophys. Res.*
  Naiman, A., D., Lele, S., K., Jacobson, M., Z.
  2011; 116 (D21208)
- **Powering the world on wind, water, and sun**
  Jacobson, M., Z.
  2011
- **Dark Aerosol Particle Contributions to Global Warming and Air Pollution Mortality**
  Jacobson, M., Z.
  2011
- **The potential of intermittent renewables to meet electric power demand: A review of current analytical techniques**
  Hart, E., K., Stoutenburg, E., D., Jacobson, M., Z.
  2011
- **Numerical Solution to Drop Coalescence/Breakup With a Volume-Conserving, Positive-Definite, and Unconditionally-Stable Scheme** *J. Atmos. Sci.*
  Jacobson, M., Z.
  2011; 68: 334-346
- **Quantifying the effects of aircraft on surface air quality and climate with a model that treats the subgrid evolution of contrails from all commercial flights worldwide (Jacobson, M.Z., D. Whitt, A.D. Naiman, S.K. Lele)**
  Jacobson, M., Z.
  2011
- **A plan for a sustainable future using wind, water, and the sun**
  Jacobson, M., Z.
  2011
- **Conversion to 100% Wind, Water, and Sun**
  Jacobson, M., Z.
  2011
- **Power output variations of co-located offshore wind turbines and wave energy converters in California** *RENEWABLE ENERGY*
  Stoutenburg, E. D., Jenkins, N., Jacobson, M. Z.
  2010; 35 (12): 2781-2791
- **A comparative study of nucleation parameterizations: 1. Examination and evaluation of the formulations** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Zhang, Y., McMurry, P. H., Yu, F., Jacobson, M. Z.
  2010; 115
- **A comparative study of nucleation parameterizations: 2. Three-dimensional model application and evaluation** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Zhang, Y., Liu, P., Liu, X., Jacobson, M. Z., McMurry, P. H., Yu, F., Yu, S., Schere, K. L.
  2010; 115
- **Fine scale modeling of wintertime aerosol mass, number, and size distributions in central California** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Zhang, Y., Liu, P., Liu, X., Pun, B., Seigneur, C., Jacobson, M. Z., Wang, W.
  2010; 115

- **Short-term effects of controlling fossil-fuel soot, biofuel soot and gases, and methane on climate, Arctic ice, and air pollution health** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2010; 115
- **Global-through-urban nested three-dimensional simulation of air pollution with a 13,600-reaction photochemical mechanism** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z., Ginnebaugh, D. L.
  2010; 115
- **California offshore wind energy potential** *RENEWABLE ENERGY*
  Dvorak, M. J., Archer, C. L., Jacobson, M. Z.
  2010; 35 (6): 1244-1254
- **Enhancement of Local Air Pollution by Urban CO2 Domes** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Jacobson, M. Z.
  2010; 44 (7): 2497-2502
- **Examining the temperature dependence of ethanol (E85) versus gasoline emissions on air pollution with a largely-explicit chemical mechanism** *ATMOSPHERIC ENVIRONMENT*
  Ginnebaugh, D. L., Liang, J., Jacobson, M. Z.
  2010; 44 (9): 1192-1199
- **Parameterization of subgrid plume dilution for use in large-scale atmospheric simulations** *ATMOSPHERIC CHEMISTRY AND PHYSICS*
  Naiman, A. D., Lele, S. K., Wilkerson, J. T., Jacobson, M. Z.
  2010; 10 (5): 2551-2560
- **Optimizing Offshore Transmission Links for Marine Renewable Energy Farms** *Washington State Conference and Trade Center (WSCTC)*
  Stoutenburg, E. D., Jacobson, M. Z.
  IEEE.2010
- **Effects of aircraft on climate and atmospheric composition**
  Jacobson, M., Z.
  2010
- **A comparative study of homogeneous nucleation parameterizations, Part II. Three-dimensional model application and evaluation** *J. Geophys. Res.*
  Zhang, Y., Liu, P., Liu, X., H., Jacobson, M., Z., McMurry, P., H., Yu, F.
  2010; 115 (D20213)
- **Steering into the Storm**
  Jacobson, M., Z.
  2010
- **Parameterization of subgrid aircraft emission plumes for use in large-scale atmospheric simulations** *Atmos. Chem. Phys.*
  Naiman, A., D., Lele, S., K., Wilkerson, J., T., Jacobson, M., Z.
  2010; 10: 2551-2560
- **A plan for a sustainable future using wind**
  Jacobson, M., Z.
  2010
- **Ranking of energy solutions to global warming**
  Jacobson, M., Z.
  2010
- **Effects of local CO2 domes on air pollution and health**
  Jacobson, M., Z.
  2010

- **Assessing the impact of aviation on climate, FAA/PARTNER Meeting**
  Jacobson, M., Z.
  2010
- **Effects of black carbon and CO2 domes on climate and air quality**
  Jacobson, M., Z.
  2010
- **The enhancement of local air pollution by urban CO2 domes**
  Jacobson, M., Z.
  2010
- **Presentation in Brussels at EEAC Energy Working Group: Scenarios and policies for decarbonization**
  Jacobson, M., Z.
  2010
- **Relative effects of fossil-fuel soot, biofuel soot and gases, and methane on climate**
  Jacobson, M., Z.
  2010
- **A plan for a sustainable future using wind, water, and sun**
  Jacobson, M., Z.
  2010
- **Presentation at 10-year anniversary for Renewable Energy Sources Act (EEG)**
  Jacobson, M., Z.
  2010
- **A plan for a sustainable future**
  Jacobson, M., Z.
  2010
- **A plan for a sustainable future**
  Jacobson, M., Z.
  2010
- **A plan for a sustainable future, Beyond Zero**
  Jacobson, M., Z.
  2010
- **A plan for a sustainable future, GeoPower America**
  Jacobson, M., Z.
  2010
- **A plan for a sustainable future using wind, water, and sun, 7th California Wind Energy Collaborative Forum**
  Jacobson, M., Z.
  2010
- **California Air Pollution Control Officer Association's (CAPCOA's) Climate Change Forum**
  Jacobson, M., Z.
  2010
- **A plan for a sustainable future**
  Jacobson, M., Z.
  2010
- **A plan for a sustainable future using wind, water, and sun**
  Jacobson, M., Z.
  2010

- **Assessing the impact of aviation on climate, FAA/PARTNER Meeting**
  Jacobson, M., Z.
  2010
- **29th Annual Conference**
  Jacobson, M., Z.
  2010
- **A comparative study of homogenous nucleation parameterizations,Part I. Examination and evaluation of the formulations** *J. Geophys. Res.*
  Zhang, Y., McMurry, P., H., Yu, F., Jacobson, M., Z.
  2010; 115 (D20212)
- **The global-through-urban nested 3-D simulation of air pollution with a 13,600-reaction photochemical mechanism** *J. Geophys.Res.*
  Jacobson, M., Z., Ginnebaugh, D., L.
  2010; 115 (D14304)
- **Analysis of emission data from global commercial aviation: 2004 and 2006** *ATMOSPHERIC CHEMISTRY AND PHYSICS*
  Wilkerson, J. T., Jacobson, M. Z., Malwitz, A., Balasubramanian, S., Wayson, R., Fleming, G., Naiman, A. D., Lele, S. K.
  2010; 10 (13): 6391-6408
- **Investigating the Effect of Large Wind Farms on Energy in the Atmosphere** *ENERGIES*
  Maria, M. R., Jacobson, M. Z.
  2009; 2 (4): 816-838
- **Probing into regional O-3 and particulate matter pollution in the United States: 2. An examination of formation mechanisms through a process analysis technique and sensitivity study** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Zhang, Y., Wen, X., Wang, K., Vijayaraghavan, K., Jacobson, M. Z.
  2009; 114
- **Probing into regional ozone and particulate matter pollution in the United States: 1. A 1 year CMAQ simulation and evaluation using surface and satellite data** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Zhang, Y., Vijayaraghavan, K., Wen, X., Snell, H. E., Jacobson, M. Z.
  2009; 114
- **A PATH TO SUSTAINABLE ENERGY BY 2030** *SCIENTIFIC AMERICAN*
  Jacobson, M. Z., Delucchi, M. A.
  2009; 301 (5): 58-65
- **Influence of future anthropogenic emissions on climate, natural emissions, and air quality** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z., Streets, D. G.
  2009; 114
- **A mass, energy, vorticity, and potential enstrophy conserving lateral fluid-land boundary scheme for the shallow water equations** *JOURNAL OF COMPUTATIONAL PHYSICS*
  Ketefian, G. S., Jacobson, M. Z.
  2009; 228 (1): 1-32
- **Review of solutions to global warming, air pollution, and energy security** *ENERGY & ENVIRONMENTAL SCIENCE*
  Jacobson, M. Z.
  2009; 2 (2): 148-173
- **Review of solutions to global warming**
  Jacobson, M., Z.
  2009
- **The global and regional climate and air pollution health effects of fossil-fuel versus biofuel soot**
  Jacobson, M., Z.
  2009

- **Effects of biofuels vs. other new vehicle technologies on air pollution, global warming, land use, and water** *Int. J. Biotechnology*
  Jacobson, M., Z.
  2009; 11: 14-59
- **Effects of soot on climate, National Association of Clean Air Agencies**
  Jacobson, M., Z.
  2009
- **Development and application of algorithms that simulate the evolution of subgrid contrails from individual aircraft to quantify the global climate effects all commercial aviation, (Jacobson, M.Z., J.T. Wilkerson, A.D. Naiman, S.K. Lele)**
  Jacobson, M., Z.
  2009
- **Assessing the impact of aviation on climate**
  Jacobson, M., Z.
  2009
- **A plan for a sustainable future, Council of Scientific Society Presidents**
  Jacobson, M., Z.
  2009
- **Quantifying the effects of aircraft on climate with a model that treats the subgrid evolution of contrails from all commercial flights worldwide**
  Jacobson, M., Z.
  2009
- **Effects of fossil-fuel and biofuel soot on snow**
  Jacobson, M., Z.
  2009
- **A mass, energy, vorticity, and potential enstrophy conserving boundary treatment scheme for the shallow water equations** *J. Comp. Phys.*
  Ketefian, G., S., Jacobson, M., Z.
  2009; 228: 1-32
- **Solutions to global warming, air pollution, energy security**
  Jacobson, M., Z.
  2009
- **The comparative effects of fossil fuel soot, biofuel soot, and gasses, and methane on regional and global climate**
  Jacobson, M., Z.
  2009
- **Review of energy solutions to global warming, air pollution, and energy security**
  Jacobson, M., Z.
  2009
- **Effects of hydrogen on climate and ozone**
  Jacobson, M., Z.
  2009
- **Review of solutions to global warming**
  Jacobson, M., Z.
  2009
- **The global and regional climate and air pollution health effects of fossil-fuel versus biofuel soot**
  Jacobson, M., Z.
  2009
- **Effects of biofuels vs. other new vehicle technologies on air pollution, global warming, land use, and water** *Int. J. Biotechnology*
  Jacobson, M., Z.

2009; 11: 14-59

- **Effects of soot on climate, National Association of Clean Air Agencies**
  Jacobson, M., Z.
  2009
- **Development and application of algorithms that simulate the evolution of subgrid contrails from individual aircraft to quantify the global climate effects all commercial aviation, (Jacobson, M.Z., J.T. Wilkerson, A.D. Naiman, S.K. Lele)**
  Jacobson, M., Z.
  2009
- **Assessing the impact of aviation on climate**
  Jacobson, M., Z.
  2009
- **A plan for a sustainable future, Council of Scientific Society Presidents**
  Jacobson, M., Z.
  2009
- **Short-term effects of agriculture on air pollution and climate in California** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2008; 113
- **Prospects for Future Climate Change and the Reasons for Early Action** *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION*
  Edgerton, S. A., MacCracken, M. C., Jacobson, M. Z., Ayala, A., Whitman, C. E., Trexler, M. C.
  2008; 58 (11): 1386-1400
- **Exploring wind energy potential off the California coast** *GEOPHYSICAL RESEARCH LETTERS*
  Jiang, Q., Doyle, J. D., Haack, T., Dvorak, M. J., Archer, C. L., Jacobson, M. Z.
  2008; 35 (20)
- **Effects of wind-powered hydrogen fuel cell vehicles on stratospheric ozone and global climate** *GEOPHYSICAL RESEARCH LETTERS*
  Jacobson, M. Z.
  2008; 35 (19)
- **Coupling and evaluating gas/particle mass transfer treatments for aerosol simulation and forecast** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Hu, X., Zhang, Y., Jacobson, M. Z., Chan, C. K.
  2008; 113 (D11)
- **Treatment goal weight in adolescents with anorexia nervosa: Use of BMI percentiles** *INTERNATIONAL JOURNAL OF EATING DISORDERS*
  Golden, N. H., Jacobson, M. S., Sterling, W. M., Hertz, S.
  2008; 41 (4): 301-306
- **On the causal link between carbon dioxide and air pollution mortality** *GEOPHYSICAL RESEARCH LETTERS*
  Jacobson, M. Z.
  2008; 35 (3)
- **Energy and Climate Change Symposium – "The Road to Renewables," Australian Government Department of Foreign Affairs and Trade**
  Jacobson, M., Z.
  2008
- **Air pollution effects of and a comparison of energy solutions to global warming, Critical Review panel**
  Jacobson, M., Z.
  2008
- **Global warming health effects and energy solutions**
  Jacobson, M., Z.
  2008
- **Effects of biofuels versus new vehicle technologies on air pollution**

Jacobson, M., Z.
2008

- **Briefing on the effects of carbon dioxide on air pollution mortality**
  Jacobson, M., Z.
  2008
- **The relative impact of carbon dioxide on air pollution health problems in California versus the rest of the U.S.**
  Jacobson, M., Z.
  2008
- **Evaluation of proposed solutions to global warming, air pollution, and energy security**
  Jacobson, M., Z.
  2008
- **The effects of ethanol vehicles on air quality and health**
  Jacobson, M., Z.
  2008
- **Computer modeling of the atmosphere: Identifying causes and effects of and evaluating solutions to global warming**
  Jacobson, M., Z.
  2008
- **Evaluation and improvement of gas/particle mass transfer treatments for aerosol simulation and forecast** *J. Geophys. Res.*
  Hu, X., M., Zhang, Y., Jacobson, M., Z., Chan, C., K.
  2008; 113 (D11208)
- **Examining the effects of aircraft emissions on contrails and global climate**
  Jacobson, M., Z.
  2008
- **Examining the effects of aircraft emissions on contrails and global climate**
  Jacobson, M., Z.
  2008
- **Biofuels in context / Energy solutions, 2008 Science for Nature Symposium**
  Jacobson, M., Z.
  2008
- **A true-renewable-energy solution to global warming**
  Jacobson, M., Z.
  2008
- **Effects of local versus global carbon dioxide emissions on local air quality and health**
  Jacobson, M., Z.
  2008
- **Examining the effects of aircraft emissions on contrails and global climate**
  Jacobson, M., Z.
  2008
- **Examining feedbacks of aerosols to urban climate with a model that treats 3-D clouds with aerosol inclusions** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z., Kaufman, Y. J., Rudich, Y.
  2007; 112 (D24)
- **Supplying baseload power and reducing transmission requirements by interconnecting wind farms** *JOURNAL OF APPLIED METEOROLOGY AND CLIMATOLOGY*
  Archer, C. L., Jacobson, M. Z.
  2007; 46 (11): 1701-1717

- **Effects of ethanol (E85) versus gasoline vehicles on cancer and mortality in the United States** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Jacobson, M. Z.
  2007; 41 (11): 4150-4157
- **Estimates of atmospheric dry deposition and associated input of nutrients to Gulf of Aqaba seawater** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Chen, Y., Mills, S., Street, J., Golan, D., Post, A., Jacobson, M., Paytan, A.
  2007; 112 (D4)
- **Large CO2 reductions via offshore wind power matched to inherent storage in energy end-uses** *GEOPHYSICAL RESEARCH LETTERS*
  Kempton, W., Archer, C. L., Dhanju, A., Garvine, R. W., Jacobson, M. Z.
  2007; 34 (2)
- **Comparing wind and other energy sources for addressing climate and air pollution**
  Jacobson, M., Z.
  2007
- **Comparative effects of vehicles technologies and fuels on climate and air pollution**
  Jacobson, M., Z.
  2007
- **Effects of black carbon and other non-Kyoto pollutants on climate**
  Jacobson, M., Z.
  2007
- **Comparative effects of vehicle fuels and technologies on air pollution and climate**
  Jacobson, M., Z.
  2007
- **Potential of the wind energy sector**
  Jacobson, M., Z.
  2007
- **Wind and rainfall reduction by aerosol particles**
  Jacobson, M., Z.
  2007
- **The Macro Perspective of Wind Power in the USA**
  Jacobson, M., Z.
  2007
- **The effects on health and climate of ethanol versus other vehicle technologies and fuels**
  Jacobson, M., Z.
  2007
- **A solution to the problem of nonequilibrium acid/base gas-particle transfer at long time step.**
  Jacobson, M., Z.
  2007
- **Comparative effects of vehicle technologies and fuels on climate and air pollution.**
  Jacobson, M., Z.
  2007
- **Effects of future emissions and a changed climate on urban air quality**
  Jacobson, M., Z.
  2007
- **Comparative effects of vehicles technologies and fuels on climate and air pollution**
  Jacobson, M., Z.

2007

- **Effects of black carbon and other non-Kyoto pollutants on climate**
  Jacobson, M., Z.
  2007
- **Comparative effects of vehicle fuels and technologies on air pollution and climate**
  Jacobson, M., Z.
  2007
- **Potential of the wind energy sector**
  Jacobson, M., Z.
  2007
- **Wind and rainfall reduction by aerosol particles**
  Jacobson, M., Z.
  2007
- **The Macro Perspective of Wind Power in the USA**
  Jacobson, M., Z.
  2007
- **The effects on health and climate of ethanol versus other vehicle technologies and fuels**
  Jacobson, M., Z.
  2007
- **Wind reduction by aerosol particles** *GEOPHYSICAL RESEARCH LETTERS*
  Jacobson, M. Z., Kaufman, Y. J.
  2006; 33 (24)
- **Comment on "fully coupled 'online' chemistry within the WRF model," by Grell et al., 2005. Atmospheric Environment 39, 6957-6975** *ATMOSPHERIC ENVIRONMENT*
  Jacobson, M. Z.
  2006; 40 (24): 4646-4648
- **Effects of externally-through-internally-mixed soot inclusions within clouds and precipitation on global climate** *JOURNAL OF PHYSICAL CHEMISTRY A*
  Jacobson, M. Z.
  2006; 110 (21): 6860-6873
- **Comment on "Evaluation of a wind power parameterization using tower observations" by Steven M. Lazarus and Jennifer Bewley** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Archer, C., Jacobson, M. Z.
  2006; 111 (D10)
- **Comments on "The semidirect aerosol effect: Comparison of a single-column model with large eddy simulation for marine stratocumulus"** *JOURNAL OF CLIMATE*
  Jacobson, M. Z.
  2006; 19 (1): 150-151
- **The effects of aerosols on wind speed, temperatures, and water supply in California**
  Jacobson, M., Z.
  2006
- **Numerical study of the effects of aerosols and irrigation on snow, rain, and regional climate in California**
  Jacobson, M., Z.
  2006
- **Air quality impacts of biofuels, Woods Institute Biofuels Workshop**
  Jacobson, M., Z.
  2006

- **Aerosol reduction of the wind** *Geophys. Res. Lett.*
  Jacobson, M., Z., Kaufmann, Y., J.
  2006; 33 (L24814)
- **Effects of absorption by soot inclusions within clouds and precipitation on global climate** *J. Phys. Chem. A*
  Jacobson, M., Z.
  2006; 110: 6860-6873
- **The relative effects of greenhouse gases**
  Jacobson, M., Z.
  2006
- **A numerical model of the partitioning of trace chemical solutes during drop freezing** *JOURNAL OF ATMOSPHERIC CHEMISTRY*
  Stuart, A. L., Jacobson, M. Z.
  2006; 53 (1): 13-42
- **Enhanced coagulation due to evaporation and its effect on nanoparticle evolution** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Jacobson, M. Z., Kittelson, D. B., Watts, W. F.
  2005; 39 (24): 9486-9492
- **Switching to a US hydrogen fuel cell vehicle fleet: The resultant change in emissions, energy use, and greenhouse gases** *JOURNAL OF POWER SOURCES*
  Colella, W. G., Jacobson, M. Z., GOLDEN, D. M.
  2005; 150: 150-181
- **The Santa Cruz eddy. Part II: Mechanisms of formation** *MONTHLY WEATHER REVIEW*
  Archer, C. L., Jacobson, M. Z.
  2005; 133 (8): 2387-2405
- **Evaluation of global wind power** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Archer, C. L., Jacobson, M. Z.
  2005; 110 (D12)
- **Cleaning the air and improving health with hydrogen fuel-cell vehicles** *SCIENCE*
  Jacobson, M. Z., Colella, W. G., GOLDEN, D. M.
  2005; 308 (5730): 1901-1905
- **Studying ocean acidification with conservative, stable numerical schemes for nonequilibrium air-ocean exchange and ocean equilibrium chemistry** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2005; 110 (D7)
- **The Santa Cruz eddy. Part I: Observations and statistics** *MONTHLY WEATHER REVIEW*
  Archer, C. L., Jacobson, M. Z., Ludwig, F. L.
  2005; 133 (4): 767-782
- **A solution to the problem of nonequilibrium acid/base gas-particle transfer at long time step** *AEROSOL SCIENCE AND TECHNOLOGY*
  Jacobson, M. Z.
  2005; 39 (2): 92-103
- **A refined method of parameterizing absorption coefficients among multiple gases simultaneously from line-by-line data** *JOURNAL OF THE ATMOSPHERIC SCIENCES*
  Jacobson, M. Z.
  2005; 62 (2): 506-517
- **Hydrogen and Wind Apollo Project, Symposium on converting existing city vehicles to utilize renewable hydrogen power**
  Jacobson, M., Z.
  2005
- **Cleaning the air and improving health with hydrogen fuel cell vehicles** *Science*

Jacobson, M., Z., Colella, W., G., Golden, D., M.
2005; 308: 1901-1905

- **The effects of aerosols on California climate**
  Jacobson, M., Z.
  2005
- **Role of aerosols in regional climate: A research frontier**
  Jacobson, M., Z.
  2005
- **Switching to a U.S. hydrogen fuel cell vehicle fleet: The resultant change in emissions, energy use, and global warming gases** *J. Power Sources*
  Colella, W., G., Jacobson, M., Z., Golden, D., M.
  2005; 150: 150-181
- **Global windpower and its potential effect on the hydrogen economy**
  Jacobson, M., Z.
  2005
- **Fossil-fuel soot's contribution to global warming, 2nd International Conference on Global Warming and the Next Ice Age**
  Jacobson, M., Z.
  2005
- **Effects on health and pollution of converting to hydrogen fuel cell vehicles and feasibility of wind-hydrogen**
  Jacobson, M., Z.
  2005
- **Global climate change: Aerosol versus greenhouse gas causes and the feasibility of a large-scale wind-energy solution**
  Jacobson, M., Z.
  2005
- **Fundamentals of Atmospheric Modeling, Second Edition**
  Jacobson, M., Z.
  Cambridge University Press, New York.2005
- **Apollo Project for Wind Energy and Wind-Hydrogen**
  Jacobson, M., Z.
  2005
- **Regional effect of aerosols on winds, precipitation, and climate**
  Jacobson, M., Z.
  2005
- **Climate response of fossil fuel and biofuel soot, accounting for soot's feedback to snow and sea ice albedo and emissivity** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2004; 109 (D21)
- **Spatial and temporal distributions of US winds and wind power at 80 m derived from measurements (vol 108, pg 4289, 2003)** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Archer, C. L., Jacobson, M. Z.
  2004; 109 (D20)
- **The short-term cooling but long-term global warming due to biomass burning** *JOURNAL OF CLIMATE*
  Jacobson, M. Z.
  2004; 17 (15): 2909-2926
- **Chemical retention during dry growth riming** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Stuart, A. L., Jacobson, M. Z.
  2004; 109 (D7)

- **Evolution of nanoparticle size and mixing state near the point of emission** *ATMOSPHERIC ENVIRONMENT*
  Jacobson, M. Z., Seinfeld, J. H.
  2004; 38 (13): 1839-1850
- **The effect on photochemical smog of converting the US fleet of gasoline vehicles to modern diesel vehicles** *GEOPHYSICAL RESEARCH LETTERS*
  Jacobson, M. Z., Seinfeld, J. H., Carmichael, G. R., Streets, D. G.
  2004; 31 (2)
- **Development and application of the model of aerosol dynamics, reaction, ionization, and dissolution (MADRID)** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Zhang, Y., Pun, B., Vijayaraghavan, K., Wu, S. Y., Seigneur, C., Pandis, S. N., Jacobson, M. Z., Nenes, A., Seinfeld, J. H.
  2004; 109 (D1)
- **The effect of particles on global and California climate**
  Jacobson, M., Z.
  2004
- **Black Carbon Effects on Climate with Different Emissions and Model Treatments**
  Jacobson, M., Z.
  2004
- **Advances in computer modeling of air pollution and climate**
  Jacobson, M., Z.
  2004
- **The climate response of fossil-fuel and biofuel soot, accounting for soot's feedback to snow and sea ice albedo and emissivity** *J. Geophys. Res.*
  Jacobson, M., Z.
  2004
- **The effect of diesel on air pollution and global climate**
  Jacobson, M., Z.
  2004
- **The climate response of soot, accounting for its feedback to snow and sea ice albedo and emissivity**
  Jacobson, M., Z.
  2004
- **The effect on photochemical smog of converting the U.S. fleet of gasoline vehicles to modern diesel vehicles** *Geophys. Res.Lett.*
  Jacobson, M., Z., Seinfeld, J., H., Carmichael, G., R., Streets, D., G.
  2004; 31 (L02116)
- **Black carbon effects on global warming and regional climate change**
  Jacobson, M., Z.
  2004
- **Numerical methods for treating size-resolved SOA formation and evolution among multiple size distributions in atmospheric models**
  Jacobson, M., Z.
  2004
- **Volatile chemical retention during dry-growth riming: A model.** *J. Geophys. Res.*
  Stuart, A., L., Jacobson, M., Z.
  2004; 109 (D07305)
- **Reply to comment by D. P. Chock et al. on "Control of fossil-fuel particulate black carbon and organic matter, possibly the most effective method of slowing global warming"** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2003; 108 (D24)

- **Reply to comment by J. E. Penner on "Control of fossil-fuel particulate black carbon and organic matter, possibly the most effective method of slowing global warming"** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2003; 108 (D24)

- **Reply to comment by J. Feichter et al. on "Control of fossil-fuel particulate black carbon and organic matter, possibly the most effective method of slowing global warming"** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2003; 108 (D24)

- **Size distributions of ionic aerosols measured at Waliguan Observatory: Implication for nitrate gas-to-particle transfer processes in the free troposphere** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Ma, J. Z., Tang, J., Li, S. M., Jacobson, M. Z.
  2003; 108 (D17)

- **Spatial and temporal distributions of US winds and wind power at 80 m derived from measurements** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Archer, C. L., Jacobson, M. Z.
  2003; 108 (D9)

- **Development of mixed-phase clouds from multiple aerosol size distributions and the effect of the clouds on aerosol removal** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2003; 108 (D8)

- **Modification of aerosol mass and size distribution due to aqueous-phase SO2 oxidation in clouds: Comparisons of several models** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Kreidenweis, S. M., Walcek, C. J., Feingold, G., Gong, W. M., Jacobson, M. Z., Kim, C. H., Liu, X. H., Penner, J. E., Nenes, A., Seinfeld, J. H.
  2003; 108 (D7)

- **Summary of the cloud chemistry modeling intercomparison: Photochemical box model simulation** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Barth, M. C., Sillman, S., Hudman, R., Jacobson, M. Z., Kim, C. H., Monod, A., Liang, J.
  2003; 108 (D7)

- **A timescale investigation of volatile chemical retention during hydrometeor freezing: Nonrime freezing and dry growth riming without spreading** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Stuart, A. L., Jacobson, M. Z.
  2003; 108 (D6)

- **Modification of the standard epsilon-equation for the stable ABL through enforced consistency with Monin-Obukhov similarity theory** *BOUNDARY-LAYER METEOROLOGY*
  Freedman, F. R., Jacobson, M. Z.
  2003; 106 (3): 383-410

- **Point and column aerosol radiative closure during ACE 1: Effects of particle shape and size** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Fridlind, A. M., Jacobson, M. Z.
  2003; 108 (D3)

- **Modification; of aerosol mass and size distribution due to aqueous-phase SO2 oxidation in clouds: Comparisons of several models** *J. Geophys. Res.*
  Kreidenweis, S., M., Walcek, C., Feingold, G., Gong, W., Jacobson, M., Z., Kim, C., H.
  2003; D7 (108)

- **Climate and air pollution effects of gasoline, hybrid, and diesel vehicles (with and without a trap)**
  Jacobson, M., Z.
  2003

- **Global warming impact of black carbon**
  Jacobson, M., Z.

2003

- **Modification of the standard ε-equation for the stable ABL through enforced consistency with Monin-Obukhov similarity theory** *Bound.-Lay. Meteorol.*
  Freedman, F., Jacobson, M., Z.
  2003; 106: 383-410
- **Addressing global warming through a large-scale wind/hydrogen program**
  Jacobson, M., Z.
  2003
- **Spatial and temporal distributions of U.S. winds and wind power at 80 m derived from measurements** *J. Geophys. Res.*
  Archer, C., L., Jacobson, M., Z.
  2003; D9 (108): 4289
- **Net climate effects of BC and OC 2: Consideration of multiple climatic effects**
  Jacobson, M., Z.
  2003
- **Causes of and Solutions to Global Warming**
  Jacobson, M., Z.
  2003
- **Changing trends in sulfur emissions in Asia: Implications for acid deposition, air pollution, and climate** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Carmichael, G. R., Streets, D. G., Calori, G., Amann, M., Jacobson, M. Z., Hansen, J., Ueda, H.
  2002; 36 (22): 4707-4713
- **Control of fossil-fuel particulate black carbon and organic matter, possibly the most effective method of slowing global warming** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2002; 107 (D19)
- **Analysis of aerosol interactions with numerical techniques for solving coagulation, nucleation, condensation, dissolution, and reversible chemistry among multiple size distributions** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2002; 107 (D19)
- **A phase I, placebo-controlled trial of multi-dose recombinant human interleukin-12 in patients with HIV infection** *AIDS*
  Jacobson, M. A., Spritzler, J., Landay, A., Chan, E., KATZENSTEIN, D., Schock, B., Fox, L., Roe, J., Kundu, S., Pollard, R.
  2002; 16 (8): 1147-1154
- **Is the size distribution of urban aerosols determined by thermodynamic equilibrium? An application to Southern California** *ATMOSPHERIC ENVIRONMENT*
  Moya, M., Pandis, S. N., Jacobson, M. Z.
  2002; 36 (14): 2349-2365
- **Transport-dissipation analytical solutions to the E-epsilon turbulence model and their role in predictions of the neutral ABL** *BOUNDARY-LAYER METEOROLOGY*
  Freedman, F. R., Jacobson, M. Z.
  2002; 102 (1): 117-138
- **Control of fossil-fuel particulate black carbon plus organic matter, possibly the most effective method of slowing global warming** *J. Geophys. Res.*
  Jacobson, M., Z.
  2002; D19 (107): 4410
- **Current and future effects of black carbon on climate**
  Jacobson, M., Z.
  2002

- **Atmospheric Pollution: History, Science, and Regulation**
  Jacobson, M., Z.
  Cambridge University Press, New York.2002
- **Transport-dissipation analytical solutions to the E-ε turbulence model and their role in predictions of the neutral ABL** *Bound.-Lay. Meteorol.*
  Freedman, F., R., Jacobson, M., Z.
  2002; 102: 117-138
- **Controlling current and future diesel emissions and other sources of fossil-fuel particulate black carbon and organic matter as an effective method of slowing global warming**
  Jacobson, M., Z.
  2002
- **Addressing air quality and climate through soot control**
  Jacobson, M., Z.
  2002
- **A time-scale investigation of volatile chemical retention during hydrometeor freezing: 1. Non-rime freezing and dry-growth riming without spreading** *J. Geophys. Res.*
  Stuart, A., L., Jacobson, M., Z.
  2002; D6 (108): 4178
- **Climate change - Recent reductions in China's greenhouse gas emissions** *SCIENCE*
  Streets, D. G., Jiang, K. J., Hu, X. L., Sinton, J. E., Zhang, X. Q., Xu, D. Y., Jacobson, M. Z., Hansen, J. E.
  2001; 294 (5548): 1835-?
- **Energy: Exploiting wind versus coal** *SCIENCE*
  Jacobson, M. Z., Masters, G. M.
  2001; 293 (5534): 1438-1438
- **GATOR-GCMM: A global- through urban-scale air pollution and weather forecast model 1. Model design and treatment of subgrid soil, vegetation, roads, rooftops, water, sea ice, and snow** *2nd AGU Chapman Conference on Water Vapor in the Climate System*
  Jacobson, M. Z.
  AMER GEOPHYSICAL UNION.2001: 5385–5401
- **GATOR-GCMM - 2. A study of daytime and nighttime ozone layers aloft, ozone in national parks, and weather during the SARMAP field campaign** *2nd AGU Chapman Conference on Water Vapor in the Climate System*
  Jacobson, M. Z.
  AMER GEOPHYSICAL UNION.2001: 5403–20
- **Strong radiative heating due to the mixing state of black carbon in atmospheric aerosols** *NATURE*
  Jacobson, M. Z.
  2001; 409 (6821): 695-697
- **Global direct radiative forcing due to multicomponent anthropogenic and natural aerosols** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  2001; 106 (D2): 1551-1568
- **Control of black carbon, the most effective means of slowing global warming** *International Conference on Computational Science (ICCS 2001)*
  Jacobson, M. Z.
  SPRINGER-VERLAG BERLIN.2001: 1060–1060
- **GATOR-GCMM: 2. A study of day- and nighttime ozone layers aloft, ozone in national parks, and weather during the SARMAP Field Campaign** *J. Geophys. Res.*
  Jacobson, M., Z.
  2001; 106: 5403-5420
- **Recent reductions in China's greenhouse gas emissions** *Science*
  Streets, D., G., Jiang, K., Hu, X., Sinton, J., E., Zhang, X., Q., Xu, D., Jacobson, M. Z.

2001; 294: 1835-1836

- **Control of fossil-fuel particulate black carbon and organic matter, possibly the most effective method of slowing global warming**
  Jacobson, M., Z.
  2001
- **Control of black carbon, the most efficient method of controlling global warming**
  Jacobson, M., Z.
  2001
- **GATOR-GCMM: A global through urban scale air pollution and weather forecast model. 1. Model design and treatment of subgrid soil, vegetation, roads, rooftops, water, sea ice, and snow.** *J. Geophys. Res.*
  Jacobson, M., Z.
  2001; 106: 5385-5402
- **Climate change mitigation and aerosols**
  Jacobson, M., Z.
  2001
- **Exploiting wind versus coal** *Science*
  Jacobson, M., Z., Masters, G., M.
  2001; 293: 1438-1438
- **Control of black carbon, the most effective means of slowing global warming**
  Jacobson, M., Z.
  2001
- **GATOR-GCMM: 2. A study of day- and nighttime ozone layers aloft, ozone in national parks, and weather during the SARMAP Field Campaign** *J. Geophys. Res.*
  Jacobson, M., Z.
  2001; 106: 5403-5420
- **Analysis of gas-aerosol partitioning in the Arctic: Comparison of size-resolved equilibrium model results with field data** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Fridlind, A. M., Jacobson, M. Z., Kerminen, V. M., Hillamo, R. E., Ricard, V., Jaffrezo, J. L.
  2000; 105 (D15): 19891-19903
- **A study of gas-aerosol equilibrium and aerosol pH in the remote marine boundary layer during the First Aerosol Characterization Experiment (ACE 1)** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Fridlind, A. M., Jacobson, M. Z.
  2000; 105 (D13): 17325-17340
- **A physically-based treatment of elemental carbon optics: Implications for global direct forcing of aerosols** *GEOPHYSICAL RESEARCH LETTERS*
  Jacobson, M. Z.
  2000; 27 (2): 217-220
- **Comparison of a 4000-reaction chemical mechanism with the carbon bond IV and an adjusted carbon bond IV-EX mechanism using SMVGEAR II** *ATMOSPHERIC ENVIRONMENT*
  Liang, J. Y., Jacobson, M. Z.
  2000; 34 (18): 3015-3026
- **Development of a global-through-urban scale nested and coupled air pollution and weather forecast model and application to the SARMAP field campaign**
  Jacobson, M., Z.
  2000
- **Effects of subgrid mixing on ozone production in a chemical model: Dilution may reduce bulk ozone production efficiency** *Atmos. Environ.*
  Liang, J., Jacobson, M., Z.
  2000; 34: 2975-2982

- **Computational design of a global-through-urban scale air pollution / weather forecast model and application to the SARMAP field campaign**
  Jacobson, M., Z.
  2000
- **Gas/aerosol partitioning in the Arctic: Comparison of size-resolved equilibrium model results with data** *J. Geophys. Res.*
  Fridlind, A., M., Jacobson, M., Z.
  2000; 105 (19): 891-19,904
- **A global-through-urban scale air pollution, weather forecast model and application to the SARMAP field campaign**
  Jacobson, M., Z.
  2000
- **A study of the mixing state of aerosols and the effect of the mixing state on global direct forcing**
  Jacobson, M., Z.
  2000
- **Chemical mechanism solver techniques and implementation of mechanism**
  Jacobson, M., Z.
  2000
- **A study of the climate response to natural plus anthropogenic aerosols**
  Jacobson, M., Z.
  2000
- **A study of gas-aerosol equilibrium and aerosol pH in the remote marine boundary layer during the First Aerosol Characterization Experiment (ACE 1)** *J. Geophys. Res.*
  Fridlind, A., M., Jacobson, M., Z.
  2000; 105 (17): 325-17,340
- **Effects of subgrid segregation on ozone production efficiency in a chemical model** *ATMOSPHERIC ENVIRONMENT*
  Liang, J. Y., Jacobson, M. Z.
  2000; 34 (18): 2975-2982
- **A comparative review of inorganic aerosol thermodynamic equilibrium modules: similarities, differences, and their likely causes** *ATMOSPHERIC ENVIRONMENT*
  Zhang, Y., Seigneur, C., Seinfeld, J. H., JACOBSON, M., Clegg, S. L., Binkowski, F. S.
  2000; 34 (1): 117-137
- **Simulation of aerosol dynamics: A comparative review of algorithms used in air quality models** *AEROSOL SCIENCE AND TECHNOLOGY*
  Zhang, Y., Seigneur, C., Seinfeld, J. H., Jacobson, M. Z., Binkowski, F. S.
  1999; 31 (6): 487-514
- **Studying the effects of calcium and magnesium on size-distributed nitrate and ammonium with EQUISOLV II** *ATMOSPHERIC ENVIRONMENT*
  Jacobson, M. Z.
  1999; 33 (22): 3635-3649
- **A study of sulfur dioxide oxidation pathways over a range of liquid water contents, pH values, and temperatures** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Liang, J. Y., Jacobson, M. Z.
  1999; 104 (D11): 13749-13769
- **Effects of soil moisture on temperatures, winds, and pollutant concentrations in Los Angeles** *JOURNAL OF APPLIED METEOROLOGY*
  Jacobson, M. Z.
  1999; 38 (5): 607-616
- **Isolating nitrated and aromatic aerosols and nitrated aromatic gases as sources of ultraviolet light absorption** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.

1999; 104 (D3): 3527-3542

- **Studying the effects of soil moisture on ozone, temperatures, and winds in Los Angeles** *J. Appl. Meteorol.*
  Jacobson, M., Z.
  1999; 38: 607-616

- **A study of sulfur dioxide oxidation pathways over a range of liquid water contents, pHs, and temperatures** *7th International Air Pollution Conference*
  Liang, J. Y., Jacobson, M. Z.
  WIT PRESS.1999: 989–996

- **Fundamentals of Atmospheric Modeling.**
  Jacobson, M., Z.
  Cambridge University Press, New York.1999

- **A study of sulfur dioxide oxidation pathways over a range of liquid water contents, pHs, and temperatures** *J. Geophys. Res.*
  Liang, J., Jacobson, M., Z.
  1999; 104 (13): 749-13,769

- **Nitric acid scavenging by mineral and biomass burning aerosols** *GEOPHYSICAL RESEARCH LETTERS*
  Tabazadeh, A., Jacobson, M. Z., Singh, H. B., Toon, O. B., Lin, J. S., Chatfield, R. B., Thakur, A. N., Talbot, R. W., Dibb, J. E.
  1998; 25 (22): 4185-4188

- **Studying the effects of aerosols on vertical photolysis rate coefficient and temperature profiles over an urban airshed** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z.
  1998; 103 (D9): 10593-10604

- **Improvement of SMVGEAR II on vector and scalar machines through absolute error tolerance control** *ATMOSPHERIC ENVIRONMENT*
  Jacobson, M. Z.
  1998; 32 (4): 791-796

- **Preliminary investigation into the effect of nocturnal residual layer mixing on next-day surface concentrations** *10th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA / American-Meteorological-Society*
  Freedman, F. R., Jacobson, M. Z., BORNSTEIN, R. D.
  AMER METEOROLOGICAL SOCIETY.1998: 452–456

- **Examining the causes and effects of downward ultraviolet irradiance reductions in Los Angeles.**
  Jacobson, M., Z.
  1998

- **Studying the effects of soil moisture on ozone, temperatures, and winds in Los Angeles** *10th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA / American-Meteorological-Society*
  Jacobson, M. Z.
  AMER METEOROLOGICAL SOCIETY.1998: 524–528

- **Numerical techniques to solve condensational and dissolutional growth equations when growth is coupled to reversible reactions** *AEROSOL SCIENCE AND TECHNOLOGY*
  Jacobson, M. Z.
  1997; 27 (4): 491-498

- **An integrated air pollution modeling system for urban and regional scales .1. Structure and performance** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Lu, R., Turco, R. P., Jacobson, M. Z.
  1997; 102 (D5): 6063-6079

- **An integrated air pollution modeling system for urban and regional scales .2. Simulations for SCAQS 1987** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Lu, R., Turco, R. P., Jacobson, M. Z.
  1997; 102 (D5): 6081-6098

- **Development and application of a new air pollution modeling system .3. Aerosol-phase simulations** *ATMOSPHERIC ENVIRONMENT*
  Jacobson, M. Z.
  1997; 31 (4): 587-608
- **Development and application of a new air pollution modeling system .2. Aerosol module structure and design** *ATMOSPHERIC ENVIRONMENT*
  Jacobson, M. Z.
  1997; 31 (2): 131-144
- **Development and application of a new air pollution modeling system. Part III: Aerosol-phase simulations** *Atmos. Environ.*
  Jacobson, M., Z.
  1997; 31A: 587-608
- **An integrated air pollution modeling system for urban and regional scales. Part I: Structure and performance** *J. Geophys. Res.*
  Lu, R., Turco, R., P., Jacobson, M., Z.
  1997; 102: 6063-6080
- **Development and application of a new air pollution modeling system Part II: Aerosol module structure and design** *Atmos. Environ.*
  Jacobson, M., Z.
  1997; 31A: 131-144
- **Testing the impact of interactively coupling a meteorological model to an air quality model.**
  Jacobson, M., Z.
  1997
- **An integrated air pollution modeling system for urban and regional scales. Part II: Simulations for SCAQS 1987** *J. Geophys. Res.*
  Lu, R., Turco, R., P., Jacobson, M., Z.
  1997; 102: 6081-6098
- **Free tropospheric ozone production after deep convection of dispersing tropical urban plumes** *ATMOSPHERIC ENVIRONMENT*
  Elliott, S., Kao, C. Y., Gifford, F., Barr, S., Shen, M., Turco, R. P., JACOBSON, M.
  1996; 30 (24): 4263-4274
- **A streamlined family photochemistry module reproduces major nonlinearities in the global tropospheric ozone system** *COMPUTERS & CHEMISTRY*
  Elliott, S., Shen, M., Kao, C. Y., Turco, R. P., Jacobson, M. Z.
  1996; 20 (2): 235-259
- **Development and application of a new air pollution modeling system .1. Gas-phase simulations** *International Specialty Conference on Regional Photochemical Measurement and Modeling Studies*
  Jacobson, M. Z., Lu, R., Turco, R. P., Toon, O. B.
  PERGAMON-ELSEVIER SCIENCE LTD.1996: 1939–63
- **Simulating equilibrium within aerosols and nonequilibrium between gases and aerosols** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Jacobson, M. Z., Tabazadeh, A., Turco, R. P.
  1996; 101 (D4): 9079-9091
- **Application of a sparse-matrix, vectorized gear-type code in a new air pollution modeling system** *3rd International Congress on Industrial and Applied Mathematics / Annual Conference of the Gesellschaft-fur-Angewandte-Mathematik-und-Mechanik e V (ICIAM/GAMM 95) - Applied Analysis*
  Jacobson, M. Z.
  WILEY-V C H VERLAG GMBH.1996: 333–336
- **Simulating equilibrium within aerosols and non-equilibrium between gases and aerosols** *J. Geophys. Res.*
  Jacobson, M., Z., Tabazadeh, A., Turco, R., P.
  1996; 101: 9079-9091
- **Development and application of a new air pollution modeling system. Part I: Gas-phase simulations** *Atmos. Environ.*
  Jacobson, M., Z., Lu, R., Turco, R., P., Toon, O., B.
  1996; 30B: 1939-1963

- **Simulating aerosols and their feedback effects on temperatures in a polluted urban environment** *4th International Conference on Air Pollution - Monitoring, Simulation and Control (Air Pollution 96)*
  Jacobson, M. Z.
  COMPUTATIONAL MECHANICS PUBLICATIONS LTD.1996: 335–344
- **Computation of global photochemistry with SMVGEAR II** *Atmos. Environ.*
  Jacobson, M., Z.
  1995; 29A: 2541-2546
- **SIMULATING CONDENSATIONAL GROWTH, EVAPORATION, AND COAGULATION OF AEROSOLS USING A COMBINED MOVING AND STATIONARY SIZE GRID** *AEROSOL SCIENCE AND TECHNOLOGY*
  Jacobson, M. Z., Turco, R. P.
  1995; 22 (1): 73-92
- **Simulating condensational growth, evaporation, and coagulation of aerosols using a combined moving and stationary size grid** *Aerosol Sci. and Technol.*
  Jacobson, M., Z., Turco, R., P.
  1995; 22: 73-92
- **Application of a sparse-matrix, vectorized Gear-type code (SMVGEAR) in a new air pollution modeling system**
  Jacobson, M., Z.
  1995
- **ANALYSIS OF THE PHYSICAL STATE OF ONE ARCTIC POLAR STRATOSPHERIC CLOUD BASED ON OBSERVATIONS** *GEOPHYSICAL RESEARCH LETTERS*
  Drdla, K., Tabazadeh, A., Turco, R. P., Jacobson, M. Z., Dye, J. E., Twohy, C., Baumgardner, D.
  1994; 21 (23): 2475-2478
- **A STUDY OF TYPE-I POLAR STRATOSPHERIC CLOUD FORMATION** *GEOPHYSICAL RESEARCH LETTERS*
  Tabazadeh, A., Turco, R. P., Drdla, K., Jacobson, M. Z., Toon, O. B.
  1994; 21 (15): 1619-1622
- **A MODEL FOR STUDYING THE COMPOSITION AND CHEMICAL EFFECTS OF STRATOSPHERIC AEROSOLS** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
  Tabazadeh, A., Turco, R. P., Jacobson, M. Z.
  1994; 99 (D6): 12897-12914
- **MODELING COAGULATION AMONG PARTICLES OF DIFFERENT COMPOSITION AND SIZE** *ATMOSPHERIC ENVIRONMENT*
  Jacobson, M. Z., Turco, R. P., JENSEN, E. J., Toon, O. B.
  1994; 28 (7): 1327-1338
- **SMVGEAR: A sparse-matrix, vectorized Gear code for atmospheric models** *Atmos. Environ.*
  Jacobson, M., Z., Turco, R., P.
  1994; 28A: 273-284
- **A study of Type I polar stratospheric cloud formation** *Geophys. Res. Lett.*
  Tabazadeh, A., Turco, R., P., Drdla, K., Jacobson, M., Z.
  1994; 21: 1619-1622
- **SMVGEAR - A SPARSE-MATRIX, VECTORIZED GEAR CODE FOR ATMOSPHERIC MODELS** *ATMOSPHERIC ENVIRONMENT*
  Jacobson, M. Z., Turco, R. P.
  1994; 28 (2): 273-284
- **Modeling coagulation among particles of different composition and size** *Atmos. Environ.*
  Jacobson, M., Z., Turco, R., P., Jensen, E., J., Toon, O., B.
  1994; 28A: 1327-1338
- **A model for studying the composition and chemical effects of stratospheric aerosols** *J. Geophys. Res.*
  Tabazadeh, A., Turco, R., P., Jacobson, M., Z.
  1994; 99 (12): 897 - 12,914

- **Simulating the sensitivity of trace gas concentrations to hydrocarbon emissions**
  Jacobson, M., Z.
  1994
- **Analysis of the physical state of one Arctic polar stratospheric cloud based on observations** *Geophys. Res. Lett.*
  Drdla, K., Tabazadeh, A., Turco, R., P., Jacobson, M., Z., Dye, J., E., Twohy, C.
  1994; 21: 2475-2478
- **TESTS ON COMBINED PROJECTION FORWARD DIFFERENCING INTEGRATION FOR STIFF PHOTOCHEMICAL FAMILY SYSTEMS AT LONG-TIME STEP** *COMPUTERS & CHEMISTRY*
  Elliott, S., Turco, R. P., Jacobson, M. Z.
  1993; 17 (1): 91-102
- **Tests on combined projection / forward differencing integration for stiff photochemical family systems at long time step** *Computers Chem.*
  Elliott, S., Turco, R., P., Jacobson, M., Z.
  1993; 17: 91-102
- **NITROGEN ION CLUSTERS IN TRITONS ATMOSPHERE** *GEOPHYSICAL RESEARCH LETTERS*
  Delitsky, M. L., Turco, R. P., Jacobson, M. Z.
  1990; 17 (10): 1725-1728
- **Nitrogen ion clusters in Triton's atmosphere** *Geophys. Res. Lett.*
  Delitsky, M., L., Turco, R., P., Jacobson, M., Z.
  1990; 17: 1725-1728